

WHAT IS CLAIMED IS:

1. A media player/recorder comprising:

a storage device to store compressed media data;

a processor to retrieve the media data stored in said storage device;

5 a memory to store the media data retrieved by said processor,

wherein said processor decompresses the media data stored in said memory;

and

an output circuit to output the decompressed media data from said processor.

2. A media player/recorder according to claim 1, wherein said memory comprises a dynamic access memory.

3. A media player according to claim 1, further comprising an interface responsive to said processor to communicate with an external device.

4. A media player according to claim 1, wherein said processor comprises a digital signal processor to control said storage device and to decompress the media data stored in said memory.

5. A media player according to claim 1, wherein said processor comprises a single integrated circuit comprising:

a digital signal processor to control said storage device and to decompress the media data stored in said memory;

20 a storage controller responsive to said digital signal processor; and

a read channel to read data from said storage device and responsive to said storage controller.

6. A media player according to claim 4, wherein said digital signal processor comprises a decoder to decompress the media data stored in said memory.

7. A media player according to claim 6, wherein said storage device stores a process for decompressing compressed data for a selected compression format.

5 8. A media player according to claim 7, wherein said digital signal processor determines a compression format of the media data stored in said memory, wherein the process for decompressing compressed data is retrieved from said storage device in accordance with the determined compression format, and wherein said decoder decompresses the media data in accordance with the retrieved process.

10 9. A media player according to claim 3, wherein the media data is transferred from the external device through said interface for storage on said storage device.

10. A media player according to claim 4, further comprising an input circuit to receive media data, wherein said digital signal processor comprises an encoder to compress the received media data, and wherein the compressed media data received by said input circuit is stored on said storage device.

15 11. A media player/recorder comprising:
a storage device to store compressed media data;
a processor to retrieve the media data stored in said storage device;
wherein said processor decompresses the media data stored in said storage device; and

20 an output circuit to output the decompressed media data from said processor,
wherein said processor comprises a digital signal processor to control said storage device and to decompress the media data stored in said memory.

12. A media player/recorder according to claim 11, wherein said memory comprises a dynamic access memory.

13. A media player according to claim 11, further comprising an interface responsive to said processor to communicate with an external device.

5 14. A media player according to claim 11, wherein said processor comprises a single integrated circuit comprising:

a digital signal processor to control said storage device and to decompress the media data stored in said memory;

a storage controller responsive to said digital signal processor; and

10 a read channel to read data from said storage device and responsive to said storage controller.

15. A media player according to claim 11, wherein said digital signal processor comprises a decoder to decompress the media data stored in said memory.

16. A media player according to claim 15, wherein said storage device stores a process for decompressing compressed data for a selected compression format.

15 17. A media player according to claim 16, wherein said digital signal processor determines a compression format of the media data stored in said memory, wherein the process for decompressing compressed data is retrieved from said storage device in accordance with the determined compression format, and wherein said decoder decompresses the media data in accordance with the retrieved process.

20 18. A media player according to claim 13, wherein the media data is transferred from the external device through said interface for storage on said storage device.

19. A media player according to claim 11, further comprising an input circuit to receive media data, wherein said digital signal processor comprises an encoder to compress the received media data, and wherein the compressed media data received by said input circuit is stored on said storage device.

5 20. An integrated circuit to control a media player/recorder having a storage device having stored thereon compressed media data, a memory and an output circuit, said integrated circuit comprising:

a digital signal processor to control the storage device;

a storage controller responsive to said digital signal processor; and

10 a read channel responsive to said storage controller to read the compressed media data from the storage device,

wherein said digital signal processor transfers the compressed media data read by said read channel to the memory,

wherein said digital signal processor comprises a decoder to decompress the media data stored in said memory; and

15 wherein said digital signal processor converts the media data decompressed by said decoder to an analog signal.

21. A media player according to claim 20,

wherein the storage device stores a process for decompressing compressed data for a selected compression format,

20 wherein said digital signal processor determines a compression format of the media data stored in the memory, wherein the process for decompressing compressed data is retrieved from the storage device in accordance with the determined compression format, and wherein said decoder decompresses the media data in accordance with the retrieved process.

22. A method of playing and recording media data from a media player/recorder, said method comprising the steps of:

- a. storing compressed media data on a storage device;
- b. retrieving the compressed media data stored on the storage device;
- 5 c. transferring the compressed media data retrieved in step b to a memory;
- d. decompressing the compressed media data transferred in step c; and
- e. outputting the decompressed media data.

23. A method of claim 22, wherein step a comprises the step of communication with an external device.

10 24. A method of claim 22, further comprising the step of supplying energy to the storage device only during step a or step b.

25. A method of claim 22, further comprising the steps of:

- f. storing a process for decompressing compressed data for a selected compression format;
- 15 g. determining a compression format of the media data transferred in step c;
- h. retrieving the selected compression format stored in step f; and
- i. decompressing the compressed media data transferred in step c in accordance with the retrieved selected compression format in step h.

26. A method of claim 22 further comprising the steps of:

- 20 j. inputting a signal;
- k. compressing the signal input in step j; and
- l. storing the compressed signal from step k on the storage device.

27. A media player according to claim 1, wherein energy is supplied to said storage device only when said processor retrieves the media data from said storage device.

28. A media player/recorder comprising:

storage means for storing compressed media data;

5 processing means for retrieving the media data stored in said storage means;

memory means for storing the media data retrieved by said processing means,

wherein said processing means decompresses the media data stored in said

memory means; and

output means for outputting the decompressed media data from said

10 processing means.

29. A media player/recorder according to claim 28, wherein said memory means comprises a dynamic access memory means.

30. A media player according to claim 28, further comprising interface means responsive to said processing means for communicating with an external device.

15 31. A media player according to claim 28, wherein said processing means comprises digital signal processing means for controlling said storage means and for decompressing the media data stored in said memory means.

32. A media player according to claim 28, wherein said processing means comprises a single integrated circuit comprising:

20 digital signal processing means for controlling said storage means and for decompressing the media data stored in said memory means;

storage controller means responsive to said digital signal processing means for controlling said storage means; and

read channel means for reading data from said storage means and responsive to said storage controller means.

33. A media player according to claim 31, wherein said digital signal processing means comprises a decoding means for decompressing the media data stored in said 5 memory means.

34. A media player according to claim 33, wherein said storage means stores a process for decompressing compressed data for a selected compression format.

35. A media player according to claim 34, wherein said digital signal processing means determines a compression format of the media data stored in said memory 10 means, wherein the process for decompressing compressed data is retrieved from said storage means in accordance with the determined compression format, and wherein said decoding means decompresses the media data in accordance with the retrieved process.

36. A media player according to claim 30, wherein the media data is transferred 15 from the external device through said interface means for storage on said storage means.

37. A media player according to claim 31, further comprising input means for receiving media data, wherein said digital signal processing means comprises encoding means for compressing the received media data, and wherein the compress media data 20 received by said input means is stored on said storage means.

38. A media player/recorder comprising:

storage means for storing compressed media data;

processing means for retrieving the media data stored in said storage means;

wherein said processing means decompresses the media data stored in said storage means; and

output means for outputting the decompressed media data from said processing means,

5 wherein said processing means comprises a digital signal processing means for controlling said storage means and for decompressing the media data stored in said memory means.

39. A media player/recorder according to claim 38, wherein said memory means comprises a dynamic access memory means.

10 40. A media player according to claim 38, further comprising an interface means responsive to said processing means for communicating with an external device.

41. A media player according to claim 38, wherein said processing means comprises a single integrated circuit comprising:

15 digital signal processing means for controlling said storage means and for decompressing the media data stored in said memory means;

storage controller means responsive to said digital signal processing means for controlling said storage device; and

read channel means for reading data from said storage means and responsive to said storage controller means.

20 42. A media player according to claim 38, wherein said digital signal processing means comprises decoding means for decompressing the media data stored in said memory means.

43. A media player according to claim 42, wherein said storage means stores a process for decompressing compressed data for a selected compression format.

44. A media player according to claim 43, wherein said digital signal processing means determines a compression format of the media data stored in said memory means, wherein the process for decompressing compressed data is retrieved from said storage means in accordance with the determined compression format, and wherein
5 said decoding means decompresses the media data in accordance with the retrieved process.

45. A media player according to claim 40, wherein the media data is transferred from the external device through said interface means for storage on said storage means.

10 46. A media player according to claim 38, further comprising input means for receiving media data, wherein said digital signal processing means comprises encoding means for compressing the received media data, and wherein the compress media data received by said input means is stored on said storage means.

15 47. An integrated circuit for controlling a media player/recorder having storage means having stored thereon compressed media data, memory means and output means, said integrated circuit comprising:
digital signal processing means for controlling the storage means;
storage controller means responsive to said digital signal processing means;
and
20 read channel means responsive to said storage controller means for reading the compressed media data from the storage means,
wherein said digital signal processing means transfers the compressed media data read by said read channel means to the memory means,
wherein said digital signal processing means comprises a decoding means for
25 decompressing the media data stored in said memory means; and

wherein said digital signal processing means converts the media data decompressed by said decoding means to an analog signal.

48. A media player according to claim 47,

5 wherein the storage means stores a process for decompressing compressed data for a selected compression format,

10 wherein said digital signal processing means determines a compression format of the media data stored in the memory means, wherein the process for decompressing compressed data is retrieved from the storage means in accordance with the determined compression format, and wherein said decoding means decompresses the media data in accordance with the retrieved process.

49. A media player/recorder comprising:

15 a storage device to store compressed media data;

and

a processor to retrieve the media data stored in said storage device;

15 a memory to store the media data retrieved by said processor,

wherein said processor decompresses the media data stored in said memory;

and

an output circuit to output the decompressed media data from said processor.

50. A media player/recorder according to claim 1, wherein said memory comprises a dynamic access memory.

20 51. A media player according to claim 1, further comprising an interface responsive to said processor to communicate with an external device.

52. A media player according to claim 1, wherein said processor comprises a digital signal processor to control said storage device and to decompress the media data stored in said memory.

53. A media player according to claim 1, wherein said processor comprises a single integrated circuit comprising:

a digital signal processor to control said storage device and to decompress the media data stored in said memory;

5 a storage controller responsive to said digital signal processor; and

a read channel to read data from said storage device and responsive to said storage controller.

54. A media player according to claim 4, wherein said digital signal processor comprises a decoder to decompress the media data stored in said memory.

10 55. A media player according to claim 6, wherein said storage device stores a process for decompressing compressed data for a selected compression format.

56. A media player according to claim 7, wherein said digital signal processor determines a compression format of the media data stored in said memory, wherein the process for decompressing compressed data is retrieved from said storage device in

15 accordance with the determined compression format, and wherein said decoder decompresses the media data in accordance with the retrieved process.

57. A media player according to claim 3, wherein the media data is transferred from the external device through said interface for storage on said storage device.

20 58. A media player according to claim 4, further comprising an input circuit to receive media data, wherein said digital signal processor comprises an encoder to compress the received media data, and wherein the compressed media data received by said input circuit is stored on said storage device.

59. A media player/recorder comprising:

a storage device to store compressed media data;

a processor to retrieve the media data stored in said storage device;
wherein said processor decompresses the media data stored in said storage device; and
an output circuit to output the decompressed media data from said processor,
5 wherein said processor comprises a digital signal processor to control said storage device and to decompress the media data stored in said memory.

60. A media player/recorder according to claim 11, wherein said memory comprises a dynamic access memory.

61. A media player according to claim 11, further comprising an interface responsive
10 to said processor to communicate with an external device.

62. A media player according to claim 11, wherein said processor comprises a single integrated circuit comprising:
said digital signal processor to control said storage device and to decompress the media data stored in said memory;
15 a storage controller responsive to said digital signal processor; and
a read channel to read data from said storage device and responsive to said storage controller.

63. A media player according to claim 11, wherein said digital signal processor comprises a decoder to decompress the media data stored in said memory.

20 64. A media player according to claim 15, wherein said storage device stores a process for decompressing compressed data for a selected compression format.

65. A media player according to claim 16, wherein said digital signal processor determines a compression format of the media data stored in said memory, wherein

the process for decompressing compressed data is retrieved from said storage device in accordance with the determined compression format, and wherein said decoder decompresses the media data in accordance with the retrieved process.

66. A media player according to claim 13, wherein the media data is transferred from the external device through said interface for storage on said storage device.

5 67. A media player according to claim 11, further comprising an input circuit to receive media data, wherein said digital signal processor comprises an encoder to compress the received media data, and wherein the compress media data received by said input circuit is stored on said storage device.

10 68. An integrated circuit to control a media player/recorder having a storage device having stored thereon compressed media data, a memory and an output circuit, said integrated circuit comprising:

a digital signal processor to control the storage device;

a storage controller responsive to said digital signal processor; and

15 a read channel responsive to said storage controller to read the compressed media data from the storage device,

wherein said digital signal processor transfers the compressed media data read by said read channel to the memory,

20 wherein said digital signal processor comprises a decoder to decompress the media data stored in said memory; and

wherein said digital signal processor converts the media data decompressed by said decoder to an analog signal.

69. An integrated circuit according to claim 68,

25 wherein the storage device stores a process for decompressing compressed data for a selected compression format,

wherein said digital signal processor determines a compression format of the media data stored in the memory, wherein the process for decompressing compressed data is retrieved from the storage device in accordance with the determined compression format, and wherein said decoder decompresses the media data in accordance with the retrieved process.

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70. A method of playing and recording media data from a media player/recorder, said method comprising the steps of:

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- a. storing compressed media data on a storage device;
- b. retrieving the compressed media data stored on the storage device;
- c. transferring the compressed media data retrieved in step b to a memory;
- d. decompressing the compressed media data transferred in step c; and
- e. outputting the decompressed media data.

71. A method of claim 70, wherein step a comprises the step of communication with an external device.

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72. A method of claim 70, further comprising the step of supplying energy to the storage device only during step a or step b.

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73. A method of claim 70, further comprising the steps of:

- f. storing a process for decompressing compressed data for a selected compression format;
- g. determining a compression format of the media data transferred in step c;
- h. retrieving the selected compression format stored in step f; and
- i. decompressing the compressed media data transferred in step c in accordance with the retrieved selected compression format in step h.

74. A method of claim 70, further comprising the steps of:

- j. inputting a signal;
- k. compressing the signal input in step j; and
- l. storing the compressed signal from step k on the storage device.

5 75. A media player according to claim 1, wherein energy is supplied to said storage device only when said processor retrieves the media data from said storage device.

76. A media player/recorder comprising:

10 storage means for storing compressed media data;
processing means for retrieving the media data stored in said storage means;
memory means for storing the media data retrieved by said processing means,
wherein said processing means decompresses the media data stored in said
memory means; and
15 output means for outputting the decompressed media data from said
processing means.

15 77. A media player/recorder according to claim 28, wherein said memory means comprises a dynamic access memory means.

78. A media player according to claim 28, further comprising interface means responsive to said processing means for communicating with an external device.

20 79. A media player according to claim 28, wherein said processing means comprises digital signal processing means for controlling said storage means and for decompressing the media data stored in said memory means.

80. A media player according to claim 28, wherein said processing means comprises a single integrated circuit comprising:

digital signal processing means for controlling said storage means and for decompressing the media data stored in said memory means;

storage controller means responsive to said digital signal processing means for controlling said storage means; and

5 read channel means for reading data from said storage means and responsive to said storage controller means.

81. A media player according to claim 31, wherein said digital signal processing means comprises a decoding means for decompressing the media data stored in said memory means.

10 82. A media player according to claim 33, wherein said storage means stores a process for decompressing compressed data for a selected compression format.

83. A media player according to claim 34, wherein said digital signal processing means determines a compression format of the media data stored in said memory means, wherein the process for decompressing compressed data is retrieved from said storage means in accordance with the determined compression format, and wherein said decoding means decompresses the media data in accordance with the retrieved process.

15 84. A media player according to claim 30, wherein the media data is transferred from the external device through said interface means for storage on said storage means.

20 85. A media player according to claim 31, further comprising input means for receiving media data, wherein said digital signal processing means comprises encoding means for compressing the received media data, and wherein the compressed media data received by said input means is stored on said storage means.

86. A media player/recorder comprising:

storage means for storing compressed media data;

processing means for retrieving the media data stored in said storage means;

wherein said processing means decompresses the media data stored in said

5 storage means; and

output means for outputting the decompressed media data from said processing means,

wherein said processing means comprises a digital signal processing means for controlling said storage means and for decompressing the media data stored in said

10 memory means.

87. A media player/recorder according to claim 38, wherein said memory means comprises a dynamic access memory means.

88. A media player according to claim 38, further comprising an interface means responsive to said processing means for communicating with an external device.

15 89. A media player according to claim 38, wherein said processing means comprises a single integrated circuit comprising:

digital signal processing means for controlling said storage means and for decompressing the media data stored in said memory means;

20 storage controller means responsive to said digital signal processing means for controlling said storage device; and

read channel means for reading data from said storage means and responsive to said storage controller means.

90. A media player according to claim 38, wherein said digital signal processing means comprises decoding means for decompressing the media data stored in said memory means.

5 91. A media player according to claim 42, wherein said storage means stores a process for decompressing compressed data for a selected compression format.

92. A media player according to claim 43, wherein said digital signal processing means determines a compression format of the media data stored in said memory means, wherein the process for decompressing compressed data is retrieved from said storage means in accordance with the determined compression format, and wherein 10 said decoding means decompresses the media data in accordance with the retrieved process.

93. A media player according to claim 40, wherein the media data is transferred from the external device through said interface means for storage on said storage means.

15 94. A media player according to claim 38, further comprising input means for receiving media data, wherein said digital signal processing means comprises encoding means for compressing the received media data, and wherein the compress media data received by said input means is stored on said storage means.

20 95. An integrated circuit for controlling a media player/recorder having storage means having stored thereon compressed media data, memory means and output means, said integrated circuit comprising:

digital signal processing means for controlling the storage means;

storage controller means responsive to said digital signal processing means;
and

read channel means responsive to said storage controller means for reading the compressed media data from the storage means,

wherein said digital signal processing means transfers the compressed media data read by said read channel means to the memory means,

5 wherein said digital signal processing means comprises a decoding means for decompressing the media data stored in said memory means; and

 wherein said digital signal processing means converts the media data decompressed by said decoding means to an analog signal.

96. A integrated circuit according to claim 95,

10 wherein the storage means stores a process for decompressing compressed data for a selected compression format,

 wherein said digital signal processing means determines a compression format of the media data stored in the memory means, wherein the process for decompressing compressed data is retrieved from the storage means in accordance with the determined compression format, and wherein said decoding means decompresses the media data in accordance with the retrieved process.

97. A media player/recorder according to claim 1, wherein said storage device comprises a hard disk.

20 98. A media player/recorder according to claim 1, wherein said storage device is selected from the group consisting of optical disk, magnetic disk, CD ROM, CDR, and CDRW.

99. A media player/recorder according to claim 5, wherein said storage device comprises a hard disk, and wherein said storage controller comprises a hard disk controller.

100. A media player/recorder according to claim 11, wherein said storage device comprises a hard disk.

101. A media player/recorder according to claim 11, wherein said storage device is selected from the group consisting of optical disk, magnetic disk, CD ROM, CDR, and

5 CDRW.

102. A media player/recorder according to claim 14, wherein said storage device comprises a hard disk, and wherein said storage controller comprises a hard disk controller.

103. An integrated circuit according to claim 20, wherein the storage device
10 comprises a hard disk, and wherein said storage controller comprises a hard disk controller.

104. A method according to claim 22, wherein the storage device comprises a hard disk.

105. A method according to claim 22, wherein the storage device is selected from the
15 group consisting of optical disk, magnetic disk, CD ROM, CDR, and CDRW.

106. A media player/recorder according to claim 28, wherein said storage means
comprises hard disk means.

107. A media player/recorder according to claim 28, wherein said storage means is
selected from the group consisting of optical storage means, magnetic storage means,
20 CD ROM, CDR, and CDRW.

108. A media player/recorder according to claim 32, wherein said storage means
comprises hard disk means, and wherein said storage controller means comprises
hard disk controller means.

109. A media player/recorder according to claim 38, wherein said storage means comprises hard disk means.

110. A media player/recorder according to claim 38, wherein said storage means is selected from the group consisting of optical storage means, magnetic storage means, 5 CD ROM, CDR, and CDRW.

111. A media player/recorder according to claim 41, wherein said storage means comprises hard disk means, and wherein said storage controller means comprises hard disk controller means.

112. An integrated circuit according to claim 47, wherein the storage means 10 comprises hard disk means, and wherein said storage controller means comprises hard disk controller means.

113. A media player/recorder comprising:

a storage device to store media data;

a storage circuit responsive to said storage device;

15 a processor to retrieve the media data stored in said storage device responsive to said storage circuit;

a memory to store the media data retrieved by said processor,

wherein said processor controls energization and deenergization of said storage device and said storage circuit in accordance with the media data stored in said 20 memory.

114. A media player/recorder according to Claim 113, wherein the said processor energizes said storage device prior to energizing said storage circuit.

115. A media player/recorder according to Claim 113, wherein the said processor deenergizes said storage device and said storage circuit when an amount of the media data stored in said memory is at least a first predetermined value.

5 116. A media player/recorder according to Claim 115, wherein the said processor energizes said storage device prior to energizing said storage circuit when an amount of the media data stored in said memory goes below a second predetermined value.

117. A media player/recorder according to Claim 113, wherein said processor comprises a counter to count an amount of data transferred to and from said memory.

10 118. A media player/recorder according to Claim 117, wherein the said processor deenergizes said storage device and said storage circuit when the count of the media data stored in said memory is at least a first predetermined value.

119. A media player/recorder according to Claim 118, wherein the said processor energizes said storage device prior to energizing said storage circuit when the count of the media data stored in said memory goes below a second predetermined value.

15 120. A media player/recorder according to Claim 113, said processor comprises a timer to determine a first time when data is transferred to said memory and a second time when data is transferred from said memory.

20 121. A media player/recorder according to Claim 120, wherein the said processor deenergizes said storage device and said storage circuit when the first time is at least a first predetermined value.

122. A media player/recorder according to Claim 121, wherein the said processor energizes said storage device prior to energizing said storage circuit when second time is at least a second predetermined value.

123. An integrated circuit to control a media player/recorder having a storage device having stored thereon media data, a storage circuit, a memory and an output circuit, said integrated circuit comprising:

a digital signal processor to control the storage device and storage circuit;

5 a storage controller responsive to said digital signal processor; and

wherein said digital signal processor transfers the media data read by the storage circuit to the memory,

wherein said digital signal processor comprises a decoder to decompress the media data stored in said memory; and

10 wherein said processor controls energization and deenergization of said storage device and said storage circuit in accordance with the media data stored in said memory.

124. An integrated circuit according to Claim 123, wherein the said processor energizes the storage device prior to energizing the storage circuit.

15 125. An integrated circuit according to Claim 123, wherein the said processor deenergizes the storage device and the storage circuit when an amount of the media data stored in said memory is at least a first predetermined value.

20 126. An integrated circuit according to Claim 125, wherein the said processor energizes the storage device prior to energizing the storage circuit when an amount of the media data stored in the memory goes below a second predetermined value.

127. An integrated circuit according to Claim 123, wherein said processor comprises a counter to count an amount of data transferred to and from the memory.

128. An integrated circuit according to Claim 127, wherein the said processor deenergizes the storage device and the storage circuit when the count of the media data stored in the memory is at least a first predetermined value.

129. An integrated circuit according to Claim 128, wherein the said processor 5 energizes the storage device prior to energizing the storage circuit when the count of the media data stored in the memory goes below a second predetermined value.

130. An integrated circuit according to Claim 123, said processor comprises a timer to determine a first time when data is transferred to said memory and a second time when data is transferred from said memory.

10 131. An integrated circuit according to Claim 130, wherein the said processor deenergizes the storage device and the storage circuit when the first time is at least a first predetermined value.

132. An integrated circuit according to Claim 131, wherein the said processor energizes said storage device prior to energizing said storage circuit when second time 15 is at least a second predetermined value.

133. A media player/recorder comprising:

storage means for storing media data;

storage circuit means for processing the media data stored on said storage means;

20 processor means for retrieving the media data stored in said storage means responsive to said storage circuit means;

memory means for storing the media data retrieved by said processor means,

wherein said processor means controls energization and deenergization of said storage means and said storage circuit means in accordance with the media data stored in said memory means.

134. A media player/recorder according to Claim 133, wherein the said processor means energizes said storage means prior to energizing said storage circuit means.

135. A media player/recorder according to Claim 133, wherein the said processor means deenergizes said storage means and said storage circuit means when an amount of the media data stored in said memory means is at least a first predetermined value.

136. A media player/recorder according to Claim 135, wherein the said processor means energizes said storage means prior to energizing said storage circuit means when an amount of the media data stored in said memory means goes below a second predetermined value.

137. A media player/recorder according to Claim 133, wherein said processor means comprises counting means to count an amount of data transferred to and from said memory means.

138. A media player/recorder according to Claim 137, wherein the said processor means deenergizes said storage means and said storage circuit means when the count of the media data stored in said memory means is at least a first predetermined value.

139. A media player/recorder according to Claim 138, wherein the said processor means energizes said storage means prior to energizing said storage circuit means when the count of the media data stored in said memory means goes below a second predetermined value.

140. A media player/recorder according to Claim 133, said processor means comprises timing means for determining a first time when data is transferred to said memory means and a second time when data is transferred from said memory means.

141. A media player/recorder according to Claim 140, wherein the said processor means deenergizes said storage means and said storage circuit means when the first time is at least a first predetermined value.

142. A media player/recorder according to Claim 141, wherein the said processor means energizes said storage means prior to energizing said storage circuit means when second time is at least a second predetermined value.

143. An integrated circuit to control a media player/recorder having a storage device having stored thereon media data, a storage circuit, a memory and an output circuit, said integrated circuit comprising:

digital signal processor means to control the storage device and storage circuit; storage control means responsive to said digital signal processor means; and

wherein said digital signal processor means transfers the media data read by the storage circuit means to the memory means,

wherein said digital signal processor means comprises a decoder to decompress the media data stored in said memory means; and

wherein said processor means controls energization and deenergization of said storage device and said storage circuit in accordance with the media data stored in said memory means.

144. An integrated circuit according to Claim 143, wherein the said processor means energizes the storage device prior to energizing the storage circuit means.

145. An integrated circuit according to Claim 143, wherein the said processor means deenergizes the storage device and the storage circuit means when an amount of the media data stored in said memory means is at least a first predetermined value.

146. An integrated circuit according to Claim 145, wherein the said processor means 5 energizes the storage device prior to energizing the storage circuit means when an amount of the media data stored in the memory means goes below a second predetermined value.

147. An integrated circuit according to Claim 143, wherein said processor means comprises a counting means to count an amount of data transferred to and from the 10 memory means.

148. An integrated circuit according to Claim 147, wherein the said processor means deenergizes the storage device and the storage circuit means when the count of the media data stored in the memory means is at least a first predetermined value.

149. An integrated circuit according to Claim 148, wherein the said processor means 15 energizes the storage device prior to energizing the storage circuit means when the count of the media data stored in the memory means goes below a second predetermined value.

150. An integrated circuit according to Claim 143, said processor means comprises timing means for determining a first time when data is transferred to said memory 20 means and a second time when data is transferred from said memory means.

151. An integrated circuit according to Claim 150, wherein the said processor means deenergizes the storage device and the storage circuit means when the first time is at least a first predetermined value.

152. An integrated circuit according to Claim 151, wherein the said processor means energizes said storage device prior to energizing said storage circuit means when second time is at least a second predetermined value.

153. A method of playing and recording media data from a media player/recorder ,
5 said method comprising the steps of:

- a. energizing a storage device storing media data;
- b. after step a energizing a storage circuit;
- c. transferring the media data stored on the storage device via the storage circuit to a memory;

10 154. A method according to claim 153, further comprising the step of:

- (d) deenergizing the storage device and storage circuit in accordance with an amount of data transferred to the memory.

155. A method according to claim 153, further comprising the steps of:

- (d) determining when an amount of data transferred to the memory is at least a first predetermined amount; and

- (e) deenergizing the storage device and storage circuit when the amount of data transferred to the memory is at least a first predetermined amount as determined in step (d).

156. A method according to claim 153, further comprising the steps of:

- (d) counting an amount of data transferred to the memory; and

- (e) deenergizing the storage device and storage circuit when the amount of data transferred to the memory counted in step (d) is at least a first predetermined amount as determined in step (d).

157. A method according to claim 153, further comprising the steps of:

(d) timing when data is transferred to the memory; and

(e) deenergizing the storage device and storage circuit when the time timed in step (d) is at least a first predetermined amount as determined in step (d).

5 158. A method according to claim 156, further comprising the steps of:

(f) counting an amount of data in the memory;

(g) energizing the storage device storing media data when the amount of data in the memory counted in step (f) goes below a second predetermined amount; and

(h) after step (g) energizing the storage circuit.

10 159. A method according to claim 155, further comprising the steps of:

(f) determining when an amount of data in the memory goes below a second predetermined amount;

(g) energizing the storage device storing media data when the amount of data in the memory goes below the second predetermined amount as determined in step (f); and

(h) after step (g) energizing the storage circuit.

160. A method according to claim 157, further comprising the steps of:

(f) timing when data is transferred from the memory;

(g) energizing the storage device storing media data when the time timed in step

20 (f) is at least a second predetermined amount; and

(h) after step (g) energizing the storage circuit.

161. A computer program for playing and recording media data from a media player/recorder, said computer program comprising the steps of:

- (a) energizing a storage device storing media data;
- (b) after step a energizing a storage circuit;
- (c) transferring the media data stored on the storage device via the storage circuit to a memory;

5 162. A computer program according to claim 161, further comprising the step of:
(d) deenergizing the storage device and storage circuit in accordance with an amount of data transferred to the memory.

163. A computer program according to claim 161, further comprising the steps of:
(d) determining when an amount of data transferred to the memory is at 10 least a first predetermined amount; and
(e) deenergizing the storage device and storage circuit when the amount of data transferred to the memory is at least a first predetermined amount as determined in step (d).

164. A computer program according to claim 161, further comprising the steps of:
15 (d) counting an amount of data transferred to the memory; and
(e) deenergizing the storage device and storage circuit when the amount of data transferred to the memory counted in step (d) is at least a first predetermined amount as determined in step (d).

165. A computer program according to claim 161, further comprising the steps of:
20 (d) timing when data is transferred to the memory; and
(e) deenergizing the storage device and storage circuit when the time timed in step (d) is at least a first predetermined amount as determined in step (d).

166. A computer program according to claim 164, further comprising the steps of:

(f) counting an amount of data in the memory;

(g) energizing the storage device storing media data when the amount of data in the memory counted in step (f) goes below a second predetermined amount; and

(h) after step (g) energizing the storage circuit.

5 167. A computer program according to claim 163, further comprising the steps of:

(f) determining when an amount of data in the memory goes below a second predetermined amount;

(g) energizing the storage device storing media data when the amount of data in the memory goes below the second predetermined amount as determined in step (f);

10 and

(h) after step (g) energizing the storage circuit.

168. A computer program according to claim 165, further comprising the steps of:

(f) timing when data is transferred from the memory;

(g) energizing the storage device storing media data when the time timed in step (f) is at least a second predetermined amount; and

(h) after step (g) energizing the storage circuit.

169. A media player/recorder comprising:

a storage device to store media data, the media data comprising a plurality of selections;

20 a memory;

a processor to transfer first portions of at least one of the plurality of selections of the media data from said storage device to said memory;

an output device,

wherein said output device outputs the first portions of the at least one of the plurality of sections of the media data from the memory,

5 wherein when a user selects a particular one of said plurality of selections, said processor retrieves a remaining portion of the particular one of said plurality of selections and said output device outputs the portion and remaining portion the particular one of said plurality of selections.

170. A media player/recorder comprising:

storage means for storing media data, the media data comprising a plurality of selections;

10 memory means for storing data;

processing means for transferring first portions of at least one of the plurality of selections of the media data from said storage means to said memory means;

15 an output means for outputting the first portions of the at least one of the plurality of sections of the media data from said memory means,

wherein when a user selects a particular one of said plurality of selections, said processing means retrieves a remaining portion of the particular one of said plurality of selections and said output means outputs the portion and remaining portion the particular one of said plurality of selections.

171. A method of playing and recording media data from a media player/recorder ,
20 said method comprising the steps of:

(a) storing media data, the media data comprising a plurality of selections;

(b) transferring first portions of at least one of the plurality of selections of the media data from step (a) to a means;

25 (c) outputting the first portions of the at least one of the plurality of sections of the media data from the memory,

wherein when a user selects a particular one of said plurality of selections, then retrieving a remaining portion of the particular one of said plurality of selections and then outputting the portion and remaining portion the particular one of said plurality of selections.

5 172. A computer program for playing and recording media data from a media player/recorder , said method comprising the steps of:

- (a) storing media data, the media data comprising a plurality of selections;
- (b) transferring first portions of at least one of the plurality of selections of the media data from step (a) to a means;

10 (c) outputting the first portions of the at least one of the plurality of sections of the media data from the memory,

wherein when a user selects a particular one of said plurality of selections, then retrieving a remaining portion of the particular one of said plurality of selections and then outputting the portion and remaining portion the particular one of said plurality of selections.

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